Service Manual

Stored Pressure
Dry Chemical
Hand Portable
Fire Extinguishers

Pro Line

2½ lb - 20 lb
Agent Capacity

Kidde

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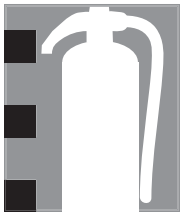
Warning: Failure to follow the instructions contained herein may result in property damage and/or personal injury!

Important Notice

Any time an unusual extinguisher discrepancy is noticed or the specific corrective action or procedure required to resolve this condition is not fully understood, personnel should stop and seek proper qualified assistance prior to continuing.

For assistance, you may contact the nearest authorized Kidde fire extinguisher distributor. Your local distributor can be located in the phone book yellow pages, by contacting Kidde directly at (1-800-880-6788) or by logging on to www.kiddeus.com



Introduction

This manual is designed as a guide to service personnel in the performance of operation, after use, inspection, maintenance, service and recharge of Kidde dry chemical hand portable fire extinguishers.

These instructions are written and intended to be used by those personnel already familiar with standard industry fire extinguisher safety procedures and practices. All fire extinguishers should be installed, inspected and maintained in accordance with the National Fire Protection Association Standard titled "Portable Fire Extinguishers" (NFPA-10) and all the requirements of the local authority having jurisdiction.

The instructions appearing in the National Fire Protection Association standard for portable fire extinguishers (NFPA-10), the Code of Federal Regulations, and in the Compressed Gas Association (CGA) pamphlets are not generally repeated in this manual, except where they may emphasize or clarify a point. Hydrostatic testing of fire extinguisher cylinders for example is amply covered in NFPA-10 and CFR-49 part 180.209, which reference procedures in CGA pamphlets C-1, C-2 and C-6.

NFPA
1 Batterymarch Park
Quincy, MA 02269
(617) 770-3000
www.nfpa.org

Government Printing Office
P.O. Box 371954
Pittsburgh, PA 15250-7954
(202) 512-1802
www.bookstore.gpo.gov

Compressed Gas Association
1235 Jefferson Davis HWY
Arlington, VA 22202
(703) 412-0900
www.cganet.com

General Information

These Kidde extinguisher models are stored pressure hardware designs, which utilize steel and Aluminum agent cylinders. These models are charged with various types of Kidde dry chemical agents that include Regular (Sodium Bicarbonate), Purple-K (Potassium Bicarbonate) and Multipurpose (Mono-Ammonium Phosphate). The extinguishers should only be pressurized with nitrogen.

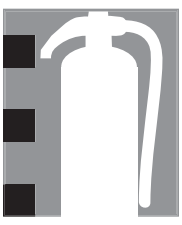
Never attempt to recharge a Kidde dry chemical fire extinguisher with any other dry chemical agent other than that specified on the original nameplate.

Descriptions

The Kidde dry chemical extinguishers are "stored pressure" hardware designs that contain both the agent and expellant charge within the same cylinder. The extinguishers are engineered to effectively discharge the contents of the dry chemical charge.

These extinguishers consist of the following basic parts:

1. **Agent cylinder** - contains the dry chemical agent and expellant charge.



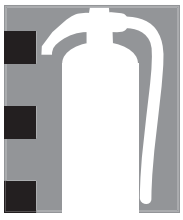
2. **Discharge valve assembly** - consists of the operating lever, carrying handle, valve stem, pressure gauge and discharge outlet that permits the actuation and discharge of the dry chemical extinguishing agent.
3. **Siphon tube assembly -** houses the spring assembly and provides the means for the extinguishing agent to be drawn up from the bottom of the cylinder to the discharge valve.
4. **Ring pin and tamper seals** - provide a means of visual assurance that the extinguisher has not been activated, charged or subjected to tampering.
5. **Discharge hose assembly** -provides a flexible means of agent delivery from the discharge valve to the nozzle.
6. **Nozzle assembly** - provides the agent discharge stream shaping characteristics necessary for optimum fire fighting performance.

Operation Instructions

1. Remove the extinguisher from its hanger or bracket.
2. Pull and remove the ring pin, breaking the visual tamper seal.
3. Using the extinguisher carrying handle, transport the unit to a safe position upwind of the fire.
4. Remove the hose nozzle from the retention clip (if equipped) and, while keeping the extinguisher in a vertical position, aim the nozzle at the base of the fire.
5. Approach fire from upwind, to within approximately 8 to 12 feet of the front edge of the fire.

WARNING:
Failure to start back at a sufficient distance from the front edge of the fire or to use an adequate sweeping tempo of the agent discharge stream could cause splashing and or scattering of the burning material.

6. Starting back from this distance, squeeze the operating lever fully to initiate the agent discharge.
7. Apply the dry chemical agent discharge in a side to side sweeping manner, being careful not to splash or scatter the fuel. Operators may advance closer as control of the fire is gained however, they should avoid stepping into the fuel or fire area.
8. After fire extinguishment, stand by and be prepared to address any re-flash.
9. Once the fire is out and has cooled, ensure the fuel is properly removed and disposed of in accordance with any local handling requirements.



After Use Instructions
Note: Fire extinguishers should always be recharged immediately after any use.

1. Invert extinguisher, then while securing and pointing the nozzle in a safe direction, squeeze the operating lever valve to clear hose and vent all remaining pressure from the extinguisher.

2. Notify proper person that extinguisher was used, so that the extinguisher can be immediately recharged or a replacement obtained.

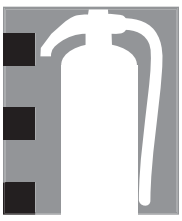
Monthly Inspection Procedures
According to NFPA-10, inspection is a quick check that an extinguisher is available and will operate. It is intended to give reasonable assurance that the extinguisher is fully charged and operable. This is done by verifying that it is in its designated place, that it has not been actuated or subjected to tampering, and that there is no obvious physical damage or condition to prevent its operation.

Inspections should be conducted whenever extinguishers are initially placed into service and there- after at approximately 30 day intervals. When circumstances require, more frequent intervals may be necessary. Any time an inspection reveals a discrepancy, maintenance and service procedures should be performed.

1. Ensure the extinguisher is properly located in plain view and its access is unobstructed.
2. Examine unit for any signs of corrosion, leakage or physical damage.
3. Ensure the nameplate is secure and legible and that the "operating instructions" face outward.
4. Ensure ring pin and visual inspection tamper seal are in place and intact.
5. Ensure pressure gauge pointer needle indicates within the green operable pressure range.
6. Heft or weigh extinguisher to determine its fullness.

Note: Kidde recommends stored pressure dry chemical fire extinguishers be weighed at least semi-annually to verify the proper agent charge weight in accordance with nameplate instructions.

7. Visually examine the discharge nozzle, and/or hose assembly to ensure it is clear and unobstructed.
8. Date and initial the inspection tag or record in accordance with NFPA-10 and local requirements.



Annual Maintenance & Service Procedures
Per NFPA-10, maintenance is a thorough examination of a fire extinguisher and is intended to provide maximum assurance that it will operate effectively and safely. It includes a thorough examination of all components and the repair or replacement of such items if necessary.

Maintenance should be performed at intervals not to exceed one year apart or any time an inspection discrepancy dictates.

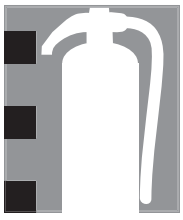
Kidde recommends that only authorized Kidde distributors or personnel having been properly trained to recognize and correct discrepancies, as well as understand all the proper industry safety procedures, conduct the maintenance or service of Kidde fire extinguishers. Refer to the trouble shooting section of this manual for additional information on specific equipment observations or discrepancies. Only Kidde factory replacement parts are recommended for use in Kidde extinguishers.

WARNING:
To prevent injury or death, always ensure all pressure is properly relieved from an extinguisher prior to attempting any service, repair or recharge.

1. Ensure extinguisher is installed in its proper location and that it is readily accessible. Most Kidde dry chemical extinguisher models are approved for temperature ranges between -40° F to +120° F.
2. Remove extinguisher from its hanger or bracket and ensure that all mounting hardware is properly installed, secure and in good operating condition.
3. Externally examine unit for any signs of damage that might prohibit service or dictate the need for any special maintenance/repair procedures.
4. The periodic re-hydrostatic test date of the extinguisher should be checked. The maximum periodic interval for Kidde dry chemical stored pressure hand portable fire extinguishers is 12 years.

Note: NFPA-10 requires stored pressure dry chemical fire extinguishers having a 12 year periodic hydrostatic test interval to be emptied and internally examined every 6 years. Should this 6 year tear down requirement be due, refer to the recharge section of this manual for recommended procedures.

5. Unthread and remove the discharge nozzle, and/or hose assembly from the cylinder valve assembly and visually ensure it is not plugged or obstructed. Closely examine the discharge nozzle, and/or hose assembly (including hose crimp couplings) for any damage, wear or conditions which might effect their proper function. Verify that the

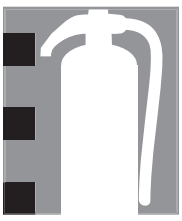


discharge nozzle, and/or hose assembly is correct for the model. (Newer Kidde models indicate this information on their nameplates)

6. Visually examine the cylinder valve discharge port for any signs of thread wear, corrosion, obstructions or accumulations of any foreign material.
7. Examine the pressure gauge for the following, properly depressurize and replace if necessary. (For corrective action refer to the trouble shooting section in this manual.)
   (a) Ensure the gauge pressure needle indicates within the green operable area.
   (b) Visually ensure there is no external gauge damage, deformation, dents or cracks.
   (c) Verify gauge charge pressure properly correlates with charge pressure on nameplate.
   (d) Ensure gauge indicates proper compatibility for dry chemical extinguishing agent.
   (e) Ensure gauge indicates proper compatibility for use with either aluminum or plated brass valve material.

Note: Recent Kidde Pro extinguisher models feature plated brass valve body assemblies.

8. Closely examine the carrying handle and operating lever for any damage or deformation, and ensure the rivets are secure.
9. Being careful not to accidentally discharge the extinguisher, pull and remove the ring pin breaking the visual inspection seal, to ensure the ring pin functions freely and is not bent, damaged or corroded. Re-install proper ring pin through the proper lever and valve ports, then install a new visual inspection tamper seal through the pull pin loop and around the carrying handle.
10. Looking under the operating lever ensure the visual portion of the valve stem shaft is not bent, damaged or corroded. (The top of the stem should extend from the valve body approximately 1/4 of an inch.)
11. Ensure the extinguisher nameplate is legible and secure. The nameplate operating instructions should face outward and be orientated within 30 degrees of the pressure gauge face. Check to ensure HMIS information is present and legible.
12. Reinstall and secure the discharge nozzle, and/or hose assembly into the discharge valves outlet port. Adjust and secure the hose nozzle into the retention band clip (if equipped).
13. Examine the cylinder hose retention band assembly (if equipped) for any damage and ensure it is properly adjusted to accommodate the hose assembly nozzle.
14. Weigh the extinguisher and verify that the total charged extinguisher weight falls within the tolerance limitations specified on the nameplate instructions.



15. Wipe the extinguisher clean with a damp cloth to remove any surface dirt or contaminants that may have accumulated.
16. Upon satisfactory completion of the maintenance examination, properly tag, label and record the procedure in accordance with NFPA-10 and any local requirements.

Recharge Instructions

According to NFPA-10, recharge is the replacement of extinguishing agent and expellant. All rechargeable fire extinguishers shall be recharged after any use or as indicated by an inspection or when performing maintenance. When performing extinguisher recharge, the recommendations of the manufacturer shall be followed.

Because of potential performance or detrimental material compatibility problems which may occur with the use of other agents, Kidde requires that only the dry chemical extinguishing agent specified on the extinguisher nameplate be utilized for recharge.

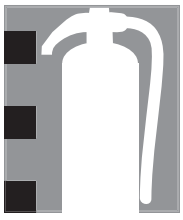
WARNING:
Prior to recharging an extinguisher, personnel should be thoroughly familiar with the contents of this manual to recognize any equipment conditions or discrepancies that might prohibit the recharge of the extinguisher or direct further equipment maintenance or repair.

1. Invert the extinguisher, then while securing and pointing the nozzle in a safe direction, squeeze the operating valve lever to remove all remaining pressure from the extinguisher. Check the extinguisher gauge pressure reading to verify all pressure is removed.

WARNING:
To avoid personal injury or death, always ensure all pressure is properly relieved from an extinguisher prior to attempting any service, repair or recharge.

2. Visually examine overall extinguisher for any signs of damage, wear, corrosion or other conditions which might prohibit the unit from being recharged.
3. Unscrew and remove the discharge nozzle, and/or hose assembly from the valve assembly.
4. Slowly unscrew the discharge valve assembly from the agent cylinder.

WARNING:
To avoid personal injury or death, should any audible pressure leakage be observed during extinguisher disassembly, technicians should stop any further service action and wait until all residual pressure is relieved.



5. Remove the discharge valve assembly from the agent cylinder. Disassemble the siphon tube and remove the spring and discharge valve stem.

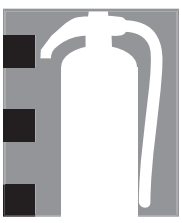
Note: Fire extinguisher valve assemblies are not typically indexed for orientation with other cylinders, so any time extinguisher valve assemblies are removed, they should always be tagged or referenced so they remain matched to the specific cylinder that they were removed from.

6. Closely examine all components to ensure they are not damaged, cracked or worn. Remove the O-ring and replace. Re-lubricate o-ring with a light coat of silicone grease such as Vislox-V711 or equivalent.
7. Examine the valve stem to ensure it is not bent or corroded. Replace O-ring and re-lubricate with a light coat of silicone grease such as Vislox-V711 or equivalent.
8. Properly reassemble the discharge valve assembly. Ensure the valve stem, spring and siphon tube are correctly installed and securely tightened.
9. Empty the agent cylinder and visually examine it internally and externally for any damage, thread wear, dents, repairs, corrosion, discoloration or contaminants. If necessary remove extinguisher from service and replace.
10. Add the proper type and quantity of Kidde dry chemical agent specified on the extinguisher nameplate recharge instructions.
11. Reinstall the discharge valve assembly onto the agent cylinder. Ensure the valve is properly snugged down and the pressure gauge is properly orientated perpendicular to the front of the extinguisher.

WARNING:
Regulated extinguisher pressurization sources should never be set any higher than 25 PSI (172 kpa) over the intended extinguisher charge pressure or be left connected to an extinguisher for extended periods of time. Never stand directly in front of an extinguisher gauge or stand over the valve assembly during pressurization.

12. Install the proper Kidde pressurization charge adapter into the discharge valve outlet port. Using a regulated source of dry nitrogen containing a calibrated pressure gauge, depress operating lever and slowly pressurize the extinguisher to pressure indicated on the nameplate. Reference the calibrated pressurization gauge for proper charge.

Note: To avoid damaging non-metal siphon tube assemblies, charge pressure should be applied slowly.



Note: During recharge, dry chemical agent can accumulate and pack within the siphon tube when installing the valve assembly into the cylinder. Recharge personnel should ensure the time required for total pressurization is appropriate for the model size. Extinguisher pressurization obtained too quickly may indicate a plugged siphon tube.

13. Upon reaching proper pressurization, release the operating lever, shut off and remove the pressure source, then install the ring pin into the valve assembly. Verify that the extinguisher gauge operating pressure is also properly reading within the green operable area and then install a visual inspection tamper seal through the ring pin pull loop and around the top operating lever. Remove the pressurization charge adapter from the extinguisher valve assembly.
14. Using a soapy solution or leak detecting fluid, properly perform a leak check of the valve assembly, gauge and cylinder collar to ensure no pressure leakage is occurring. Upon successful completion of the leak check, properly clean and dry all extinguisher surfaces.

Note: Prior to placing recharged dry chemical extinguishers back into fire protection service, Kidde recommends the extinguisher pressure gauge reading be re-verified a minimum of 24 hours after pressurization.

15. Examine the discharge nozzle, and/or hose assembly to be sure it is not loose, damaged, worn or obstructed. Reinstall and secure the nozzle and/or hose assembly into the discharge valves outlet port. Adjust and secure the hose nozzle into the retention band clip if equipped.
16. Weigh the extinguisher to verify the total charged extinguisher weight falls within the tolerance.
17. Wipe the extinguisher clean with a damp cloth to remove any surface dirt or contaminates that may have accumulated.
18. Properly tag, label and record the extinguisher recharge procedure in accordance with NFPA-10 and all local requirements.

Hydrostatic Test Requirements

Hydrostatic testing is the integrity pressure testing method of a vessel utilizing a liquid compression medium. Kidde dry chemical fire extinguisher cylinders require hydrostatic testing at periodic intervals or any time the integrity of the vessel is questioned from any visually observed condition.

Hydrostatic testing should be performed in accordance with NFPA-10 recommendations.

Evidence of conditions such as exposure to fire or heat, thread damage, thread wear, corrosion, cylinder repairs or physical damage as detailed within NFPA-10 require the extinguisher cylinder to be removed from service and proper disposal at the owner's direction.

Hydrostatic testing should only be performed by those persons trained in the appropriate testing procedures/safeguards and having the proper testing equipment, facilities and information.

Some Kidde hydrostatic test recommendations:

- Extinguisher cylinders should be replaced any time the pressure vessel has been weakened due to corrosion, cuts, dents, digs, etc.
- That only water be used as the test medium and that the extinguisher then be flushed clean, dried and visually re-examined after testing.
- The discharge valve assembly should be removed prior to hydrostatic testing of the cylinder. (Refer to Note in Step 5 of Recharge instructions.)
- The agent cylinder hydrostatic test marking method should only utilize the proper type of record labels per NFPA-10 requirements.
- Never stamp or etch any markings onto the cylinder.
- Any time a fire extinguisher is known to have contained agents, additives or mediums other than that specified on the nameplate, it should be removed from service and properly disposed at the owner's direction.
- No repairs to the cylinder are permitted. If such cylinder repairs are observed, the extinguisher should be removed from service and properly disposed at the owner's direction.

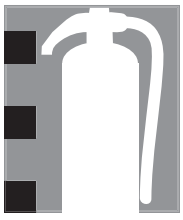
Hydrostatic Re-Test Data:

Component Description	Periodic Test Interval	Test Pressure
Agent cylinders	12 year	585 PSI

Trouble Shooting Suggestions

Problem	Corrective Suggestion
Wall hook/bracket loose or damaged	Secure, repair or replace
Nozzle obstructed	Clear , clean or replace
Discharge hose assembly worn, cracked or damaged.	Replace
Hose o-ring missing, cracked or damaged	Replace and lightly lubricate
Hose retainer/band missing or damaged	Replace
Valve discharge port obstructed/dirty	Clean or empty and replace
Pull pin bent, corroded, missing or damaged	Replace
Lever/handle loose, bent or damaged	De-pressurize and replace
Pressure gauge reads outside green area	Check ambient temperature correlation. De-pressurize and recharge or replace*
Pressure gauge damaged	De-pressurize and replace*
Gauge operating pressure differs from label	De-pressurize and replace*
Gauge does not indicate for use with dry chemical	De-pressurize and replace*
Gauge does not indicate compatible with valve material	De-pressurize and replace*
Total charge weight of unit outside tolerance	De-pressurize and recharge
Nameplate instructions missing or illegible	Replace
Agent cylinder damaged or corroded	Inspect and hydrostatic re-test or dispose of in accordance with NFPA-10

*For gauge replacement, Kidde recommends the use of Loctite - 242 thread sealant be utilized and allowed to properly cure.



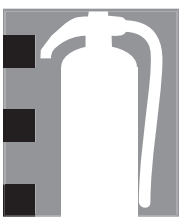
KIDDE PRO LINE STORED PRESSURE DRY CHEMICAL PORTABLE EXTINGUISHER DIAGRAM (ALUMINUM VALVE)

The following spares parts are available for the Kidde Pro Line:

(1) Hose/nozzle assembly
(2) Syphon tube assembly (excludes o-ring)
(3) Valve assembly (includes handle & lever attached & valve body excludes o-ring)
(4) O-ring kit (includes valve o-ring, syphon tube o-ring, stem assembly, stem assembly spring)
(5) Wall hanger
(6) Retention bracket
(7) Pull pin
(8) Pressure gauge
(9) Hanger loop and screw
(10) Hose strap

Model	Pro 2.62 TCM-5	Pro 2.5 TCM-6	Pro 2.75 RM-5	Pro 4 TCM -4
Part Number	**466227**	**466227**	**466228**	**466288**
1	320337	320337	320338	440310
2	21005736	21005736	21005736	21005737
3	21005739	21005739	21005739	21005739
4	21005740	21005740	21005740	21005740
5	340357	340357	340357	340358
6	466401	466401	466401	466400
7	320213	320213	320213	320213
8	340104	340104	340104	340104
9				
10				340081

Model	Pro 5 TCM -4	Pro 10 RM-4	Pro 10 RM-5	Pro 10 TCM-4
Part Number	466112	466205	466205	466204
1	440089	440257	440257	440256
2	21005737	21005738	21005738	21005738
3	21005739	21005739	21005739	21005739
4	21005740	21005740	21005740	21005740
5	340358	340791	340791	340791
6	466400	366242	366242	366242
7	320213	320213	320213	320213
8	294063	294063	294063	294063
9				
10	340081	340173	340173	340173



KIDDE PRO LINE STORED PRESSURE DRY CHEMICAL PORTABLE EXTINGUISHER DIAGRAM (ALUMINUM VALVE)

The following spares parts are available for the Kidde Pro Line:

(1) Hose/nozzle assembly
(2) Syphon tube assembly (excludes o-ring)
(3) Valve assembly (includes handle & lever attached & valve body excludes o-ring)
(4) O-ring kit (includes valve o-ring, syphon tube o-ring, stem assembly, stem assembly spring)
(5) Wall hanger
(6) Retention bracket
(7) Pull pin
(8) Pressure gauge
(9) Hanger loop and screw
(10) Hose strap

Model	Pro 10 TCM-5	Pro 10 TCM-6	Pro 20 RM-4	Pro 20 RM-5
Part Number	**466204**	**466204**	**466207**	**466207**
1	440329	440329	440127	440127
2	21005738	21005738	21005553	21005553
3	21005739	21005739	21005739	21005739
4	21005740	21005740	21005740	21005740
5	340791	340791	14260	14260
6	366242	366242	292474	292474
7	320213	320213	320213	320213
8	294063	294063	294063	294063
9			8516, 321049	8516, 321049
10	340173	340173	340175	340175

Model	Pro 20 TCM-4	Pro 20 TCM-5		
Part Number	**466206**	**466206**		
1	440126	440330		
2	21005553	21005553		
3	21005739	21005739		
4	21005740	21005740		
5	14260	14260		
6	292474	292474		
7	320213	320213		
8	294063	294063		
9	8516, 321049	8516, 321049		
10	340175	340175		

KIDDE PRO SERIES STORED PRESSURE DRY CHEMICAL PORTABLE EXTINGUISHER DIAGRAM (BRASS VALVE)

The following spares parts are available for the Kidde Pro Line:

(1) Hose/nozzle assembly
(2) Syphon tube assembly (excludes o-ring)
(3) Valve assembly (includes handle & lever attached & valve body excludes o-ring)
(4) O-ring kit (includes valve o-ring, syphon tube o-ring, stem assembly, stem assembly spring)
(5) Wall hanger
(6) Retention bracket
(7) Pull pin
(8) Pressure gauge
(9) Hanger loop and screw
(10) Hose strap

Model	Pro 110	Pro 210	Pro 340	Pro 460
Part Number	21005776	21005779	21005782	21005785
1	320337	440310	440089	422000
2	442050	442051	442051	442052
3	21005789	21005789	21005789	21005789
4	21005790	21005789	21005789	21005789
5	340357	340358	340358	340791
6				
7	320213	320213	320213	320213
8	21005805	340104	294063	294063
9				
10		340081	340081	340173

Kidde Residential and Commercial
1394 South Third Street
Mebane, NC 27302-9711
(Phone 1-800-880-6788)
Manual P/N- 300290